

A. Claim 9

Applicant submits that claim 9 is patentable over the cited reference. For example, claim 9 recites that the control circuit detects the DC offset when the input signal is muted and no input signal is supplied to the amplifiers.

The Examiner acknowledges that Aoki fails to disclose the above feature, but contends that Grosjean does. As disclosed in Grosjean, when a positive polarity DC potential is detected, the normally closed contact arms 19 are opened, which causes the source 5 to become disconnected from the power amps 9 and 11 (Fig. 2; col. 3, lines 6-15). The Examiner maintains that the opening of the contact arms 19, and the disconnection of the source 5, reads on the claimed muting of the input signal. However, as set forth in the January 14, 2005 Amendment, Grosjean only discloses that the source 5 is cut off or muted *when* the DC offset is detected, and does not disclose that when the source 5 is *already* muted, a DC offset is then detected (i.e., *when* the input signal is muted) as recited in claim 9.

In response to the above argument, the Examiner maintains that Grosjean does disclose that a DC offset is detected when an input signal is already muted and no input signal is supplied to the amplifiers. In particular, the Examiner maintains that based on voltages applied from the amplifiers 9 and 11 to the diodes 27 and 35, the relay coil 21 is energized to disconnect the source 5 from the amplifiers (pages 2 and 3 of Office Action). However, the Examiner maintains that operation of the relay coil 21 does not prevent a signal from being applied via the interconnection at 29 to the diodes 27 and 35, and thus, a relative detection of a DC offset at interconnection 29 would still occur (i.e., even if source 5 were disconnected).

Applicant respectfully traverse the Examiner's assertion. For example, the circuit disclosed in Grosjean fails to mute input signals, in a manner as recited in claim 9, due to the provision of the AC filter 29 (which the Examiner calls the "interconnection") which shunts the AC signals from the amplifiers before detecting DC voltage (col. 3, lines 6-15). There is no concept of muting the input signal as in the present invention.

Also, the circuit disclosed in Grosjean is a protective circuit for protecting amplifiers and speakers from damage, while the circuit disclosed in Aoki is a compensation circuit. Thus, since there is no common concept, Applicant submits that one skilled in the art would not be motivated to combine the references.

Further, even if the circuit arrangements in Grosjean and Aoki were combined, the resulting combination would still fail to teach or suggest the claims apparatus, since neither reference discloses muting of an input signal in a manner as recited in the claim 9.

Finally, as set forth in the January 14, 2005 Amendment, Applicant submits that there is no suggestion or motivation to modify the circuit of Aoki to have the contact arms 19 of Grosjean. In particular, Aoki specifically discloses that due to the PNP transistors 15 and 16, the offset voltage detecting circuit 14 is able to eliminate both positive and negative offset voltages arising between the output signal supply terminals 28 and 29, where terminals 28, 29 supply a load to the loudspeaker 30 (col. 7, line 23 to col. 8, line 55; col. 8, lines 56-66). Since any positive or negative offset voltage is already eliminated by the circuit of Aoki, Applicant submits that there is no motivation or need to provide the circuit of Aoki with the contact arms 19 of Grosjean (i.e., since the purpose of the contact arms 19 of Grosjean are to avoid supplying a

signal to the power amps when a positive polarity DC potential is detected, which already is eliminated in Aoki).

Based on the foregoing, Applicant submits that claim 9 is patentable over the cited reference.

B. Claims 11 and 13, 15-17

Since claims 11, 13, 16 and 17 are dependent upon claim 9, Applicant submits that such claims are patentable at least by virtue of their dependency.

C. Claim 15

Claim 15 recites a muting control circuit adapted to mute the input signal supplied to the first and second amplifiers for a predetermined length of time.

Similar to Applicant's comments regarding claim 9, since any positive or negative offset voltage is already eliminated by the circuit of Aoki, Applicant submits that there is no motivation or need to provide the circuit of Aoki with the contact arms 19 of Grosjean (i.e., since the purpose of the contact arms 19 of Grosjean are to avoid supplying a signal to the power amps when a positive polarity DC potential is detected, which is already eliminated in Aoki). Thus, as set forth in the January 14, 2005 Amendment, even if the contact arms 19 disclose a type of muting control circuit, one skilled in the art would not be motivated to provide them in the circuit of Aoki.

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Also, Grosjean fails to teach or suggest how long the contact arms 19 remain open, such that the reference also fails to teach or suggest the claimed “predetermined length of time.”

In response to the above, the Examiner asserts that an open or disconnected state of the contact arms 19 is maintained by a latch means for at least a period of time that is determined by properties of the involved resistances and capacitances (page 5 of Office Action). Applicant submits, however, that a determination of a period of time based on values of resistance or capacitance, which can vary, fails to teach or suggest the claimed “predetermined period” of time.

In view of the above, Applicant submits that claim 15 is patentable over the cited references.

II. Rejection under 35 U.S.C. § 103(a) over Aoki in view of U.S. Patent No. 5,939,938 to Kalb et al. (“Kalb”), U.S. Patent No. 3,959,735 to GrosJean (“GrosJean”) and U.S. Patent No. 4,301,330 to Trump (“Trump”).

Claims 1-5 and 7-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Aoki as applied above, and in further view of Kalb, GrosJean and Trump.

A. Claim 1

Applicant incorporates herein all arguments previously presented in the January 14, 2005 Amendment.

In addition, regarding the claimed feature of detecting a differential voltage to provide a DC offset, while no input signal is supplied, Applicant refers the Examiner to the additional comments presented above for claim 9.

On pages 4 and 5 of the Office Action, the Examiner continues to maintain that one skilled in the art would be motivated to modify the circuit of Aoki to contain the switch 250 of Trump. However, the circuit of Trump has no relation with a BTL amplifier. The Trump circuit is addressed to protect a speaker when an unusual input is fed to the amplifier. Thus, the circuit of Trump is quite different from the present invention. Accordingly, Applicant maintains the arguments presented in the January 14, 2005 Amendment.

In view of the above, Applicant submits that claim 1 is patentable over the cited references.

B. Claims 2, 3, 4, 7 and 8

Since claims 2, 3, 4, 7 and 8 are dependent upon claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

C. Claim 5

Sine claim 5 contains features that are analogous to the features recited in claim 1, Applicant submits that claim 5 is patentable for at least analogous reasons as set forth above.

III. Rejection under 35 U.S.C. § 103(a) in view of Aoki, Grosjean and Trump

Claims 18-21 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Aoki, Grosjean and Trump.

A. Claim 18

For similar reasons as set forth above in Applicant's comments regarding claims 1 and 9, Applicant submits that there is no motivation or suggestion to modify the circuit of Aoki to include the switch 250 of Trump between at least one of the amps 12 and 13 and the loudspeaker 30.

Accordingly, Applicant submits that claim 18 is patentable over the cited references.

B. Claims 19 and 20

Since claims 19 and 20 contain features that are analogous to the features recited in claim 18, Applicant submits that claims 19 and 20 are patentable for at least analogous reasons as presented above.

C. Claim 21

Since claim 21 contains features that are analogous to the features recited in claim 15, Applicant submits that claim 21 is patentable for at least analogous reasons as claim 15.

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IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

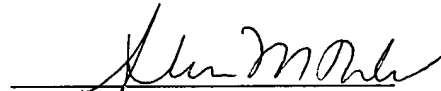
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